

WHAT IS CLAIMED IS:

1. A system for monitoring usage of gateways responsible for managing one or more network elements, said system comprising:
at least one gateway responsible for managing one or more network elements;
said at least one gateway maintaining usage information detailing the amount of usage
of said gateway in managing said one or more network elements; and
usage management system communicatively coupled to said at least one gateway,
wherein said at least one gateway is operable to communicate said usage information to said
usage management system.
2. The system of claim 1 wherein said usage includes gateway processing.
3. The system of claim 2 wherein said gateway processing includes handling of
messages received from said one or more network elements.
4. The system of claim 3 wherein said at least one gateway includes a SNMP
gateway responsible for managing one or more SNMP network elements, and wherein said
handling of messages includes handling of SNMP messages.
5. The system of claim 4 wherein said SNMP messages includes at least one
message selected from the group consisting of: SNMP Trap messages, SNMP Get Messages,
and SNMP Set messages.
6. The system of claim 1 wherein said at least one gateway includes code
executable to track said amount of usage of said at least one gateway.

7. The system of claim 6 wherein said code includes code implemented within an API.

8. The system of claim 7 wherein said API includes functionality that can be invoked to maintain a count of one or more types of usage of said at least one gateway.

9. The system of claim 8 wherein said at least one gateway includes code that, upon said at least one gateway performing a type of usage, invokes said functionality of said API to increment a count for said type of usage.

10. The system of claim 9 wherein said code invokes said functionality by passing a descriptor of said type of usage to said API, and wherein said API maintains a count for said descriptor.

11. The system of claim 1 wherein said at least one gateway includes code executable to track said amount of different types of usage of said at least one gateway.

12. The system of claim 11 wherein said code increments a count maintained for a particular one of said different types of usage upon said at least one gateway performing said particular one type of usage.

13. The system of claim 12 wherein said different types of usage includes handling of different types of messages from said one or more network elements.

14. The system of claim 1 wherein said usage management system is operable to poll said at least one gateway for said usage information.

15. The system of claim 1 wherein said usage management system is operable to compile received usage information into a file.

16. The system of claim 15 wherein said usage management system is communicatively coupled to a plurality of gateways, and wherein said usage management system is operable to compile usage information received from said plurality of gateways into a file.

17. The system of claim 15 wherein said usage management system is operable to electronically communicate said file comprising usage information to a recipient.

18. The system of claim 1 wherein said usage management system is operable to electronically communicate said usage information received from said at least one gateway to a recipient.

19. A method of monitoring usage of one or more gateways that are responsible for managing network elements, said method comprising the steps of:

one or more gateways each tracking the amount of their respective usage in managing one or more network elements; and

5 said one or more gateways each communicating their respective amount of usage to a usage management system communicatively coupled to said one or more gateways.

20. The method of claim 19 wherein said usage includes gateway processing.

21. The method of claim 20 wherein said gateway processing includes handling of messages received from said one or more network elements.

22. The method of claim 19 wherein said tracking step further comprises:
said one or more gateways each executing software code to compute said amount of usage.

23. The method of claim 22 wherein said software code includes code implemented within an API.

24. The method of claim 23 wherein said tracking step further comprises:
upon a particular type of usage occurring within said one or more gateways, said one or more gateways invoking said API to maintain a count of said particular type of usage.

25. The method of claim 24 wherein said invoking step includes passing a descriptor of said type of usage to said API.

26. The method of claim 19 wherein said tracking step further comprises:
tracking an amount of different types of usage.

27. The method of claim 26 wherein said tracking step further includes:

said one or more gateways each executing code to increment a count maintained for a particular one of said different types of usage responsive to an occurrence of said particular one type of usage.

28. The method of claim 26 wherein said different types of usage includes handling of different types of messages from said one or more network elements.

29. The method of claim 19 wherein said communicating step is responsive to polling of said at least one gateway for said usage information by said usage management system.

30. The method of claim 19 further comprising the step of:
said usage management system electronically communicating received usage information to a recipient.

31. A gateway responsible for managing one or more network elements, said gateway comprising:

means for processing messages received from one or more network elements to which said gateway is communicatively coupled; and

5 means for tracking the amount of usage of said gateway in processing said messages received from said one or more network elements.

32. The gateway of claim 31 wherein the processing means includes a processor.

33. The gateway of claim 32 wherein the processing means further includes software code executable by said processor.

34. The gateway of claim 31 wherein the tracking means includes software code executable to increment a count to track said amount of usage.

35. The gateway of claim 34 wherein said software code includes code implemented within an API.

36. The gateway of claim 35 wherein said API includes functionality that can be invoked to maintain a count of one or more types of usage.

37. The gateway of claim 36 wherein the tracking means includes software code that, upon occurrence of a type of usage, invokes said functionality of said API to increment a count for said type of usage.

38. The gateway of claim 37 wherein said software code invokes said functionality by passing a descriptor of said type of usage to said API, and wherein said API maintains a count for said descriptor.

39. The gateway of claim 31 wherein said usage includes gateway processing.
40. The gateway of claim 39 wherein said gateway processing includes handling of messages received from said one or more network elements.
41. The gateway of claim 31 wherein the tracking means includes software code executable to track an amount of different types of usage.
42. The gateway of claim 41 wherein said software code increments a count maintained for a particular one of said different types of usage upon occurrence of said particular one type of usage.
43. The gateway of claim 42 wherein said different types of usage includes handling of different types of messages from said one or more network elements.
44. The gateway of claim 31 further comprising communicative coupling to a usage management system, wherein said gateway is operable to communicate said amount of usage to said usage management system.

45. A system comprising:
processor-based management system;
plurality of distributed gateways communicatively coupled to said processor-based
management system, wherein said plurality of distributed gateways are responsible for
managing one or more network elements, and wherein at least one of said distributed
gateways is operable to maintain usage information detailing the amount of usage of said at
least one of said plurality of distributed gateways in managing said one or more network
elements; and
usage management system communicatively coupled to said at least one of said
plurality of distributed gateways, wherein said at least one of said plurality of distributed
gateways is operable to communicate said usage information to said usage management
system.

46. The system of claim 45 wherein said usage includes gateway processing.

47. The system of claim 46 wherein said gateway processing includes handling of
messages received from said one or more network elements.

48. The system of claim 47 wherein said at least one of said plurality of
distributed gateways includes a SNMP gateway responsible for managing one or more SNMP
network elements, and wherein said handling of messages includes handling of SNMP
messages.

49. The system of claim 48 wherein said SNMP messages includes at least one
message selected from the group consisting of: SNMP Trap messages, SNMP Get Messages,
and SNMP Set messages.

50. The system of claim 45 wherein said at least one of said plurality of distributed gateways includes software code executable to track its respective amount of usage.

51. The system of claim 45 wherein said at least one of said plurality of distributed gateways includes software code executable to track an amount of different types of usage.

52. The system of claim 51 wherein said software code increments a count maintained for a particular one of said different types of usage upon occurrence of said particular one type of usage.

53. The system of claim 52 wherein said different types of usage includes handling of different types of messages from said one or more network elements.

54. The system of claim 45 wherein said usage management system is operable to poll said at least one gateway for said usage information.

55. The system of claim 45 wherein said usage management system is implemented on a common platform with said processor-based management system.

56. A method for providing to a customer at least one gateway for use in managing one or more network elements, wherein said customer is charged a fee that is based at least in part on the amount of usage of said at least one gateway, said method comprising the steps of:

5 providing to said customer at least one gateway for use in managing one or more network elements;

said at least one gateway comprising functionality to track the amount of its usage;
billing said customer based at least in part on the amount of usage of said at least one gateway.

57. The method of claim 56 wherein said usage includes gateway processing.

58. The method of claim 57 wherein said gateway processing includes handling of messages received from said one or more network elements.

59. The method of claim 56 wherein said functionality is provided by software code executable within said at least one gateway.

60. The method of claim 56 wherein said at least one gateway further comprises:
functionality to track an amount of different types of usage.

61. The method of claim 60 wherein said at least one gateway increments a count maintained for a particular one of said different types of usage upon occurrence of said particular one type of usage at said at least one gateway.

62. The method of claim 60 wherein said different types of usage includes handling of different types of messages from said one or more network elements.

63. The method of claim 56 further comprising the step of:
communicating said amount of usage from said at least one gateway to a usage management system to which said at least one gateway is communicatively coupled.

64. The method of claim 63 wherein said communicating step is responsive to polling of said at least one gateway by said usage management system.

65. The method of claim 63 wherein said usage management system is communicatively coupled to a plurality of gateways, further comprising the step of:
said usage management system compiling usage information received from said plurality of gateways.

66. The method of claim 65 further comprising the step of:
said usage management system electronically communicating compiled usage information to a recipient.

67. The method of claim 63 further comprising:
said usage management system electronically communicating said amount of usage received from said least one gateway to a recipient.